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# DEPARTMENT OF THE AIR FORCE

## SUPPORTING DATA FOR FISCAL YEAR 1984 BUDGET ESTIMATES

SUBMITTED TO CONGRESS JANUARY 31, 1983



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### DESCRIPTIVE SUMMARIES

RESEARCH, DEVELOPMENT, TEST AND EVALUATION

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Program Element: #65807F  
DOD Mission Area: #451 - Major Ranges and Test Facilities

Title: Test and Evaluation Support  
Budget Activity: #6 - Defense-wide Mission Support

communications, utilities, contractor services, supplies and equipment and up-keep of existing facilities to provide the industrial funded test base required for competent and credible test and evaluation.

(4) (U) Program to Completion: This is a continuing program.

C. (U) Major Milestones: Not Applicable.

11. (U) PROJECT OVER \$10 MILLION IN FY 1984:

(U) Project: (2114 - 4950th Test Wing):

A. (U) Project Description: The 4950th Test Wing, Aeronautical Systems Division, Wright-Patterson AFB OH, performs flight tests of aircraft and airborne systems, supports space vehicle tracking for the Space Division and other DOD and National Aeronautics and Space Administration agencies, and operates the Air Force Systems Command's (AFSC) major Class II aircraft modification facility. Flight tests have varied from evaluations of an airborne sidfiring cannon to investigation of state-of-the-art airborne laser systems and night attack sensors. The Wing has the capability to conduct full-scale engineering evaluations, airborne instrumentation and data reduction, Class II aircraft modification and extensive technical photo documentation. ~~Seeding out of 25 overseas bases~~, the Advanced Range Instrumentation Aircraft (ARIA) fleet of seven aircraft provide telemetry support for the NASA and DOD missile launches out of Cape Canaveral, FL, and Vandenberg AFB, CA. The Deputy Commander for Aircraft Modification accomplishes mechanical and electronic modifications to AFSC test aircraft to support flight test programs. Fabrication support is also provided to the Air Force Wright Aeronautical Laboratories. The Wing possesses functional managerial responsibility for Class II Aircraft Modification policy throughout AFSC.

B. (U) Program Accomplishments and Future Efforts:

(1) (U) FY 1982 Accomplishments: Flight test accomplishments include Airborne Laser Laboratory (which is a continuing C-135 program thru FY 87), Tactical Bistatic Radar (a joint C-130/C-135 test program), Crosseye ECM (a C-135 test bed warning radar system for SAC B-52's), SABRE CROSS (contractor-funded T-39 test bed advanced radar proposed for the F-16 and B-1), Little/Big Crow (a joint T-39/C-135 test bed aircraft modified to support the Army Patriot program - electronic jamming capability), and MERLA (which is a C-135 test bed aircraft supporting a classified SAC program). Twenty projects received Class II modifications in FY 82. Big Crow (C-135) deployed to Europe to support two NATO exercises. ARIA support of DOD and NASA missile/space vehicle launch telemetry and Air Launched Cruise Missile programs continued. Two of the ~~ARIA B-52's~~ were reengined using JT-3D engines from the Boeing 707-100 series APLC engine donor program. As a result of the DOD directed Strategic Systems Test Support Study, the ARIA Phased Array Telemetry Antenna System (APATS) was terminated. The 4950th Test Wing obtained a Computer Aided Design (CAD) capability. Work continues on incorporating a Computer Aided Manufacturing (CAM) capability.

(2) (U) FY 1983 Program: Flight test programs to be supported include SABRE CROSS, Infrared Properties/Aerospace Radio Propagation (which are two continuing Air Force Geophysics Laboratory projects on dedicated C-135 aircraft), Airborne Laser Laboratory, Aircraft Navigation System Verification (which are C-141/C-130 compatible palletized

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systems used to check out navigation systems at Holloman AFB, NM), NAVSTAR and ALCM. Also ARIA will continue to support telemetry tracking coverage requirements of various Army, Navy, Air Force, and NASA projects to include both tactical and strategic testing. Work will accelerate on the Wing's CAD/CAM program. Wing operation/maintenance crews will continue proficiency training on the C-18A aircraft. Increased C-18A training flights will exercise the logistics supportability of the aircraft system. Extensive aircraft modification continues on the EC-18B/ARIA conversion. Emphasis will be placed on the special procedures used for certain small test programs which will expedite the Class II aircraft modification procedure for these selected programs.

(3) (U) FY 1984 Planned Program and Basis for FY 1984 RDT&E Request: Maintain efforts on continuing flight test and ARIA support of DOD and NASA programs. Continue RTO and PTO support for specified, future DOD flight test programs. Use of integrated CAD/CAM system to conduct engineering design and fabrication of Class II aircraft modification is anticipated. With the programmed increase in the 4950th Test Wing manpower, less Class II aircraft modification projects will be contracted for engineering design, manufacturing, and installation. Prototype EC-18B/ARIA conversion will be accomplished and flight testing started. Two more EC-18B/ARIA conversions will be underway. The ARIA fleet will eventually consist of six EC-18B and two EC-135E (JT-3D reengined EC-135 A-Model ARIA). The Wing will ~~start~~ ~~conduct~~ ~~TRIDENT~~ strategic testing support in Broad Ocean Areas in the Pacific and Atlantic areas.

(4) (U) Program to Completion: This is a continuing program.

C. (U) Major Milestones: Not applicable.

# **SIGNALS INTELLIGENCE: CONTINENTAL UNITED STATES**